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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/758,744	01/11/2001	Jeffrey L. Thielman	10982025-1	9018

22879 7590 04/16/2003

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EXAMINER	
VO, ANH T N	
ART UNIT	**PAPER NUMBER**
2861	6

DATE MAILED: 04/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/758,744	Applicant(s) THIELMAN ET AL.
	Examiner Anh T. N. Vo	Art Unit 2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-6, 8-11, 15, and 17* is/are rejected.

7) ☒ Claim(s) *7, 12-14, 16, and 18-26* is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 5
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Oath/Declaration

The declaration filed 20 August 2001 is acceptable.

Information Disclosure Statement

The references cited on PTO 1449 have been considered.

Specification

The specification has been checked to the extent necessary to determine the presence of all possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Double patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground

provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-26 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of application number 09/758,746 (US pat. 6,547,377). Although the conflicting claims are not identical, they are not patentably distinct from each other because they claim an ink jet printing system comprising:

- ink supply;
- unsaturated ink;
- an air diffusion barrier;
- an interconnect port;
- a metal barrier insert structure;
- air saturation level of 70% or less and/or 20% or less; and
- an air diffusion barrier system having a shelf life of at least a period of six months.

This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Claims Objection

Claim 1 is objected to in that the claims do not clearly recite the body and the preamble.

Claim 21 is objected to in that "a" at line 15 should be --an--.

Correction is required.

CLAIM REJECTIONS

Claim Rejections - 35 U.S.C. § 112

Claims 1-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Appropriate correction or clarification is required.

In claim 1, it is unclear what the "areas" on line 2 and "structures" on line 3 are, how the ink supply can comprise the ink supply on line 4, how the ink can be disposed in the ink supply and how the recitation "areas", "structures" and "quantity of liquid saturated ink" is read on the preferred embodiment. Insofar as understood, no such elements can be determined on the drawings.

In claim 2, the recitation "the external environment" lacks antecedent basis. It is unclear what the "external environment" is and how the interconnect can be interconnected to the system. The same is true for claims 11, 15 and 23.

In claims 4-5, the recitation "the structure" lacks antecedent basis.

In claim 7, the recitation "the fluid passage" on line 7 lacks antecedent basis. Also, the recitation "ink reservoir" on line 5 and "barrier structure" on line 7 is confusing because it is unclear if this is an additional "reservoir" and "barrier structure" or a further recitation of the previously claimed "reservoir" and "barrier structure" in claim 2.

In claim 21, it is not understood what the "body of saturated ink" on line 7 is and how it can be disposed in the reservoir.

In claim 23, the recitation "the chassis" on line 5 lacks clear antecedent basis.
The remaining claims are dependent from the above rejected claims and therefore also considered indefinite.

CLAIM REJECTIONS

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 USC 102 (b) as being anticipated by Cowger et al. (US Pat. 5,409,134).

Cowger et al. disclose in Figures 1-2 an ink jet pen comprising:

- an ink supply (24);
- one or more air diffusion barrier structures (barrier film) shielding each of said one or more areas (42) of relatively high air diffusion from air diffusion (Figures 1-2, column 8, lines 57-62); and
- a quantity of liquid unsaturated ink disposed in said ink supply (24) (Figures 1-2).

Claims 1-6, 8-11, 15, and 17 are rejected under 35 USC 102 (b) as being anticipated by Kamisuki et al. (US Pat. 5,734,395).

Pawlowski, Jr. et al. disclose in Figures 1A-3A, 37-38, and 46 a continuous ink jet printer comprising:

- an ink supply (30, 36 or 320) (Figure 1A and 46);
- one or more air diffusion barrier structures (flexible polymer material or Polyvinylidene

Chloride) shielding each of said one or more areas (36) of relatively high air diffusion from air diffusion (Figure 1A, column 5, lines 54-58);

- a quantity of liquid unsaturated ink disposed in said ink supply (30, 36) (Figure 1A);
- wherein the ink supply (30, 36) includes a reservoir for holding the quantity of liquid unsaturated ink, a fluid interconnect (66 or 328) for interconnecting to the printing system (10) when the ink supply is installed in the printing system, wherein the one or more areas of relatively high air diffusion includes an ink flow path (36) between the reservoir and the fluid interconnect (66), and wherein the one or more air diffusion barrier structures includes a first barrier structure for shielding the ink flow path (36) from air diffusion from the external environment into the ink flow path (Figures 1A-3A, column 5, lines 54-58);
- wherein the first barrier structure includes a structure enveloping the ink flow path (Figure 1A);
- wherein said structure is fabricated from stainless steel, aluminum, ceramic or a high barrier polymer, including Nylon, PET, ABS, PPS or LCP (column 5, lines 54-58);
- wherein the structure includes an insert (462) disposed in said fluid interconnect (328) (Figure 46);
- wherein the insert is a hollow insert structure (462) disposed in said fluid interconnect (Figure 46);
- wherein the ink reservoir (324) is a collapsible bag (Figure 38);
- wherein the collapsible bag is a multi-layered structure including a barrier layer providing a high barrier to air diffusion (Figures 37-38, column 15, lines 58-67 and column 16, lines 1-30);
- wherein said barrier layer is a metalized layer or a high barrier polymer or a metal oxide deposition layer (column 16, lines 15-30);
- wherein the ink supply (320) includes a reservoir (324) for holding the quantity of liquid unsaturated ink, and a fluid interconnect (328) for interconnecting to the printing system when the ink supply is installed in the printing system, the fluid interconnect (328) including a septum

(404) for receiving a needle (462) when the ink supply (320) is installed in the printing system, wherein the one or more areas of relatively high air diffusion include the septum, and wherein the one or more barrier structures includes a septum barrier structure applied to the septum (404) (Figure 46);.

- the ink supply (320) includes a reservoir (324) for holding the quantity of liquid unsaturated ink, and a fluid interconnect (328) for interconnecting to the printing system when the ink supply is installed in the printing system, the fluid interconnect (328) including a septum (404) for receiving a needle (462) when the ink supply is installed in the printing system, and wherein the septum (404) is fabricated of an elastomeric material (polyisoprene rubber) having a high air diffusion barrier property, the septum comprising the one or more barrier structures (Figure 46); and
- wherein the liquid unsaturated ink has an air solubility level of 70% or less.

Allowable Subject Matter

Claim 7 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. This claims would be allowable because none of the prior art references of record discloses a chassis member fabricated of a material having a relatively high air diffusion rate, the chassis member having a fluid passage formed therethrough leading between a fluid interconnect port and an ink reservoir attachment, and wherein the one or more air diffusion barrier structures includes a barrier structure shielding the fluid passage in the combination as claimed.

Claims 12-14 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of

the base claim and any intervening claims. These claims would be allowable because none of the prior art references of record discloses the septum barrier structure includes a metal layer affixed to the septum after the quantity of ink is disposed in said ink supply in the combination as claimed.

Claim 16 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. This claims would be allowable because none of the prior art references of record discloses the elastomer material which is selected from a group including EPDM, Butyl, an EPDM/polypropylene (PP) blend, or a Butyl/PP blend in the combination as claimed.

Claims 18-19 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. This claims would be allowable because none of the prior art references of record discloses the air diffusion barrier structures are constructed to shield the liquid unsaturated ink from air diffusion so as to provide a shelf life of at least six months, such that the air solubility level does not exceed 70% during the shelf life in the combination as claimed.

Claim 20 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. This claims would be allowable because none of the prior art references of record discloses the unsaturated ink has an initial saturation level of 20% or less, and wherein the air diffusion barrier structures are constructed to shield the liquid

unsaturated ink from air diffusion so as to provide a shelf life of at least six months, such that the air solubility level does not exceed 70% during the shelf life in the combination as claimed.

Claims 21-26 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. These claims would be allowable because none of the prior art references of record discloses an air diffusion barrier system protecting the ink reservoir and the fluid interconnect from air diffusion for a shelf life of at least a period of six months, so that ink delivered to the printing system remains in an unsaturated condition for at least said period of six months in the combination as claimed.

CONCLUSION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Anh Vo whose telephone number is (703) 305-8194. The examiner can normally be reached on Tuesday to Friday from 8:00 A.M.to 6:00 P.M.
The fax number of this Group 2800 is (703) 305-3431 or 305-3432.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308- 0956.

ANH T.N. VO
PRIMARY EXAMINER

April 11, 2003